

# Weatherization Grantee Health and Safety (H&S) Plan *Optional Template*

## 1.0 – GENERAL INFORMATION

Additional information that does not fit neatly in one of the other sections of this document.

N/A

## 2.0 – BUDGETING

Grantees are encouraged to budget H&S costs as a separate category and, thereby, exclude such costs from the Average Cost Per Unit (ACPU) cost limitation. This separate category also allows these costs to be isolated from energy efficiency costs in program evaluations. H&S costs that are budgeted and reported under the Program Operations category rather than the H&S category, the related H&S costs must be included in the calculation of the ACPU and cost-justified through the Grantee's Department of Energy (DOE)-approved energy audit tool.

Select which option used below.

Separate H&S Budget ☒

Contained in Program Operations ☐

## 3.0 – H&S EXPENDITURE LIMITS

Pursuant to [10 CFR 440.16\(h\)](#), Grantees must establish H&S expenditure limits for their Program and provide justification for those limits by explaining the basis and related historical H&S expenditures. DOE acknowledges that it may be necessary for Grantees to deviate from historical expenditures when certain circumstances arise (e.g. funding source changes).

[10 CFR 440.16\(h\)\(2\)](#) dictates that these limits must be expressed as a percentage of the ACPU. To calculate this percentage use the following formula:

$$\text{Total Average H\&S Cost per Unit} = \frac{\text{H\&S budget amount}}{\text{Program Operations budget amount}}$$

For example, if the ACPU is \$5,000 and a Grantee's Program expends an average of \$750 per dwelling on energy-related H&S measures, the Total Average H&S Cost per Unit would equal 15 percent. DOE acknowledges that this percentage may vary significantly between Grantees due to different geographical areas and depending upon the availability of other funding sources, resource availability, etc. Low percentages should include a statement of what other funding supports H&S costs, while larger percentages will require greater justification and relevant historical support.

15 percent is not a maximum limit on H&S expenditures. DOE will conduct a secondary level of review on H&S Plans with a Grantee request of more than 15 percent of Program Operations used for H&S purposes, . **DOE strongly encourages using the table below in developing justification for the requested H&S budget amount.** In accordance with [10 CFR 440.18\(d\)\(15\)](#), these funds are to be expended by the Program in direct weatherization activities, "of which is necessary before, or because of, installation of weatherization materials." This same section of the regulation excludes the H&S costs from the ACPU limitation if H&S costs are budgeted separately.

DOE recommends reviewing recent budget requests and compare those to actual H&S expenditures to see if previous budget estimates have been accurate. The resulting Total Average H&S Cost per Unit multiplied by the Grantee's production estimate in the Annual File should correlate to the H&S budget amount listed in the Grantee's annual plan..

**H&S expenditure limits and justification explaining the basis for setting the limits.**

Describe H&S Expenditure Limits and Justification Here

Utilizing the spreadsheet embedded below, provide a full list of H&S measures using historical data from your program, including average cost, and frequency rate. If installing more than a single instance of one measure in a unit (e.g. multiple CO alarms), Grantees may aggregate costs so that frequency does not exceed 100%, or enter a justification into the measure column, which explains why that measure has a frequency rate of over 100%. The spreadsheet will auto calculate your expected Total Average H&S Cost per Unit.

**Instructions:** Double-click icon directly below to open, view and edit Measure Matrix Spreadsheet. Complete the spreadsheet by entering the required information. To save, close the spreadsheet and it will save to this document.

Measure Matrix  
Final.xlsx

## 4.0 – INCIDENTAL REPAIR MEASURES

*Any measures that could potentially be identified as H&S but the Grantee chooses to instead identify and treat those measures as incidental repair measures (IRMs), must be implemented consistently throughout the Grantee's weatherization program. The measure must fit the regulatory definition of an IRM and be cost justified along with the associated energy conservation measure and/or package of measures. [10 CFR 440.3](#) defines Incidental Repairs as, "those repairs necessary for the effective performance or preservation of weatherization materials."*

### H&S measures identified and treated as IRMs within your Program.

There are no Health and Safety measures that can be identified as Incidental Repair Measures for the Colorado WAP program. Per Colorado Technical Standards, Incidental Repair Measures (IRM) such as electrical repairs, minor plumbing repairs, minor roof leak repairs, and minor structural repairs may only be made when necessary to preserve weatherization measures such as insulation. Door and window replacement, repair, and/or installation are not eligible WAP health and safety expenses. They must be qualified as energy efficiency measures for replacement or meet the definition for incidental repair when repaired. In instances where repair or replacement of doors or windows is recommended because the door/window could not otherwise be caulked or weather-stripped effectively this measure should not be billed as a Health and Safety cost; it should be categorized as an IRM. Providing protective materials such as primer or paint to seal and protect the weatherization materials installed shall be categorized as an incidental repair and shall be billed as such. Such materials shall only be allowed to protect weatherization materials installed. They shall not be allowable for cosmetic reasons alone. Incidental Repair Measures must be assessed in a site specific audit and must be associated with an Energy Conservation Measure(s) that have an SIR of 1.0 or greater and the cumulative project SIR must be 1.0 or greater as well.

The CEO WAP does not have a cap for IRMs. The CEO WAP is seeking approval to run IRMs for the PY21-22 provided that the cumulative SIR is 1.0 or greater. This route was chosen because site specific audits are done in Colorado, and many units require IRMs to install ECMs. By using this method, a full assessment of costs and SIRs can be completed for each unit. Per DOE WPN 12-9 guidance, IRMs are not to be included with the ECMs and since Weatherization is a one time service, the CEO WAP's goal has been to provide cost-effective IRMs necessary to install ECMs. In lieu of an IRM dollar amount limitation, the CEO WAP requires that IRMs are cost-effective to install as part of the cumulative SIR. There is no specific language, but the intent is to allow cost-effective IRMs, based on the electronic energy audit, provided that the State PUA is not exceeded.

## 5.0 – OCCUPANT PRE-EXISTING OR POTENTIAL HEALTH CONDITIONS AND HAZARD IDENTIFICATION AND NOTIFICATION FORM(s)

*Grantees must include policies/procedures for informing clients of the aspects of weatherization that may put a client with pre-existing health conditions at risk during installation of measures. This screening may occur as part of the initial application for weatherization and/or during the energy audit. Procedures must include what steps will be taken and/or available to the client to ensure that weatherization work will not aggravate pre-existing health conditions. Additionally H&S assessments are required to identify hazards in the home. For those hazards identified, appropriate testing is required when applicable. The client/landlord/property manager must be informed in writing of all testing results, including identification of a hazards revealed by the testing that will lead to deferral/referral.*

*Grantees are required to develop documentation forms that include at a minimum:*

- *Occupant Pre-existing or Potential Health Conditions;*
  - o *Screen occupant(s) to self-report known or suspected health concerns either as part of initial application for weatherization, during the energy audit, or other parts of the weatherization process as specified;*
  - o *Inform client in writing of any known risks; and*
  - o *Provide client with Subgrantee point of contact information in writing so client can inform of any issues.*
- *Hazard Identification Notification Form*
  - o *The occupant(s) (and Landlord's, if applicable) name and address;*
  - o *Date(s) of the energy audit/assessment and when the occupant(s) (and Landlord, if applicable) was informed of a potential H&S issue;*
  - o *A clear description of the problem;*
  - o *A statement indicating if, or when weatherization could continue; and*
  - o *The occupant(s) (and Landlord's, if applicable) signature(s) indicating that they understand and have been informed of their rights and options.*

#### **Procedure for soliciting occupants' health and safety concerns related to components of their homes**

Occupant pre-existing or potential health conditions shall be documented in the client file. During the energy audit the client must fill out the "Client Sensitivity" form and a signed copy must be in the client file. Crews will advise the client as to any actions required for any at-risk occupants before work shall begin. Any failure or inability to take the appropriate actions shall result in deferral of the weatherization work. Proper referral and deferral protocols shall be followed and documented. The definition of at-risk occupants is clients with pre-existing health conditions or sensitivities to basic construction materials.

#### **Procedure for determining whether occupants suffer from health conditions which may be negatively impacted by the act of weatherizing their dwelling**

The auditor is to provide to the client information regarding any known risks of materials being used in the home. Subgrantee contact information is to be provided in order for the client to be able to inform the subgrantee of any issues. Occupants are required to reveal known or suspected health concerns as part of the initial application for weatherization. The form is to be reviewed with the client during the audit. The auditor's signature is required.

#### **Procedure for addressing potential health concerns including pre-existing health conditions when they are identified**

Clients must be informed of materials being used in their homes. When the client's health may be at risk and/or the work activities could constitute a health or safety hazard, the occupant at risk will be required to take appropriate action, based on severity of risk.

Actions to be taken by the subgrantee and client, if applicable, are as follows:

- Temporary relocation of at-risk occupants may be allowed on a case-by-case basis.
- The parameters used for temporary relocation are if WAP services cause inhospitable damage to the dwelling.
- Occupants are required to reveal known or suspected health concerns as part of the initial application for weatherization (See Attachment 1 for Client Chemical Sensitivity Form). The form is to be reviewed with the client during the audit. The auditor's signature is required.
- The auditor is to provide to the client information regarding any known risks of materials being

used in the home. Subgrantee contact information is to be provided in order for the client to be able to inform the subgrantee of any issues.

- Subgrantee is required to take appropriate actions to protect the client from pre-existing sensitivity conditions if the unit is not deferred.
- Failure or the inability to take appropriate actions must result in the deferral of the unit.

The CEO WAP's approach is not only limited to clients that may have chemical sensitivities. If they have other health issues such as asthma or are sensitive to cellulose, dust, or airborne particles from measures, subgrantees should accommodate the client as feasible and use other like-available products, such as fiberglass over cellulose. CEO WAP applications screen for at-risk occupants, intake staff also screen for at-risk occupants, auditors further screen for at-risk-occupants, and then application information and any other information discovered through intake and auditing is put into the client file and disseminated to field crews.

**Documentation Form(s) have been included for review?**

Yes ☒ No ☐

**Location where forms have been uploaded/submitted**

Separate attachment to SF424 ☒ Separate attachment to H&S Plan ☐

## 6.0 – HEALTH AND SAFETY CATEGORIES

For each of the following H&S categories identified by DOE:

- Explain whether you concur with existing guidance from Weatherization Program Notice (WPN) 17-7 and how that guidance will be implemented in your Program, if you are proposing an alternative action/allowability, or if the identified category will not be addressed and will always result in deferral. Alternatives require comprehensive explanations as to how it meets the intent of DOE guidance.
- Where an action/allowability or testing is “required” or “not allowed” through WPN 17-7, Grantees must concur, or choose to defer all units where the specific category is encountered.
- Any activities that are marked as deferral/referrals must contain the H&S reasons specified within the Master File Section V.1.2 Box 5 Deferral/Referral.
- Unless an alternate funding source(s) is declared, utilize DOE funds to address the particular category.
- Describe the explicit methods to address the specific category.
- Describe in detail what testing protocols (if any) used to assess the particular category.
- Define and quantify minimum thresholds that determine minor, major, and limited definitions and the criteria used to make a determination on a case-by-case basis.
- Define “at-risk” occupant(s) and identify minimum documentation requirements for them.
- Client Education activities specific to H&S reasons is required within the Master File Section V.8.4 Training and Technical Assistance of the annual application.
- Training activities specific to H&S reasons is required within the Master File Section V.8.4 Training and Technical Assistance of the annual application.

## 6.1 – Air Conditioning and Heating Systems

**Concurrence, Alternative or Deferral**

Concurrence with DOE Guidance ☒ Alternative Guidance ☐ Results in Deferral/Referral ☐

Air Conditioning Unallowable with DOE Funds ☐ Heating Unallowable with DOE Funds ☐

Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

**Procedure for unsafe or non-functioning primary heating/cooling systems**

“Red tagged”, inoperable, or nonexistent heating system replacement, repair, or installation is allowed where climate conditions warrant. In most cases, Colorado does not allow air conditioning system replacement, repair, or installation because Colorado is mostly a cold weather state for the majority of the year. Colorado does allow a waiver process to be used to allow for exceptions to elderly clients where health and safety would be at risk. Heating systems should be evaluated for cost effective replacement first and if the heating systems qualify for both ECM and H&S replacement the measure should be treated as an ECM. Heating system installation as a health and safety measure is allowable if the system does not have an SIR of 1.0 or greater and there is a condition that could potentially affect the health and safety of the occupant or crew such as a cracked heat exchanger and excessive CO that cannot be remediated.

#### **Procedure for unsafe or non-functioning secondary heating systems, including unvented secondary space heaters**

Test for carbon monoxide (CO). Inform the client of dangers of unvented space heaters – CO, moisture, NO<sub>2</sub>, CO can be dangerous even if the CO alarm does not sound. If the client will not allow removal, defer the weatherization work to the home. Removal is required, except as secondary heat where the unit conforms to ANSI Z21.11.2. Units that do not meet ANSI Z21.11.2 must be removed prior to weatherization but may remain until a replacement heating system is in place. Replacement or installation of secondary units is not allowed.

#### **Definition of and documentation required for “at-risk” occupants**

Per Colorado’s Health & Safety Plan, a dwelling unit should not be weatherized where there is a major code violation or where there is a potentially harmful situation that may adversely affect the occupants or agency’s weatherization crew and/or other staff. When such issues are found to be present, the owner/occupant is notified verbally and in writing; and, only after the owner corrects the identified issues satisfactorily and to code shall any weatherization work begin. The audit form shall include the client’s name and address, dates of the audit/assessment, date the client was informed, a clear description of the issue(s), a clear description of the condition(s) under which weatherization work could begin/continue, a clear description of the responsibilities of all parties involved, client’s signature(s) indicating that they have been informed of their rights and options and that they understand the issues and their responsibilities.

The documentation required for at-risk occupants to justify the replacement, repair, or installation of air conditioning is a formal recommendation from a licensed physician for a controlled/conditioned environment given the specific client’s health condition(s). For the purposes of the CEO WAP program, “At Risk Clients” are defined as:

1. Elderly (over 60 years old)
2. Children (under 6 years old)
3. Clients with health conditions that warrant the need for cooling

#### **Testing protocols**

Minimal standards for remedy include, but are not limited to the following:

- Flex connectors that are brass, damaged or older than 1973 must be replaced. Copper supply lines for natural gas must be replaced (health and safety) with Gastite™ or black pipe.
- Any home using a combustion appliance zone for a sleeping room shall not be weatherized (sealed combustion appliances in sleeping areas are excluded) until such situation is remedied by either:
  1. Client education on the dangers of carbon monoxide resulting in the client permanently removing the bedroom furniture from the area. Before and after documentation both digital and written must be placed in the client file.
  2. Isolating the sleeping area from the CAZ in order to mitigate the possibility of CO entering the sleeping area. Proper combustion air must be supplied to the CAZ if this is the avenue taken. The cost of this work may utilize health and safety dollars. Defer the home if either of the above remedies cannot be provided.
- Testing for gas leakage at connections of natural gas and propane piping systems. Leakage will be located using an approved combustible gas detector, a noncorrosive leak detection fluid or an equivalent nonflammable solution. Matches, candles, open flames or other methods that could provide a source of ignition cannot be used. Where leakage or other defects are located, the affected portion of the piping system will be repaired or replaced and retested. Reported to the occupant immediately.
- Ensure the venting system is installed properly.
- Baseline pressure will be measured in Combustion Appliance Zone with reference to outdoors.

- Depressurization test will include exhaust fans, interior door closure or opening of a door, or duct leakage, or a combination thereof accounting for base pressure.
- With the combustion appliance zone (CAZ) in the worst case depressurized state, test spillage on the smallest btu appliance first. A spillage test must be performed within two (2) minutes of the appliance start up using smoke or a mirror. Spillage must be completed for all natural draft space heating systems and water heaters. Spillage must first be tested under worst-case conditions and then repeated for natural conditions if the appliance fails under worst-case. If appliance fails spillage repairs must be made to mitigate.
- CO will be tested for in undiluted flue gases of combustion appliances. If CO levels exceed 200 ppm as measured, service should be performed to reduce CO to below these levels (unless CO measurement is within manufacturer specifications).
- If the outlet of the exhaust is accessible, include a CO test on all sealed-combustion, direct vent, and power-vented appliances (without atmospheric chimneys).
- Heat exchangers must be inspected for cracks.
- Furnaces with defective manual pilot assemblies are to be replaced as an Incidental Repair Measure associated with furnace tune up. If furnace tune up is not cost effective and the pilot assembly leaks gas which creates an unsafe situation and compromises the health and safety of the occupant or crews, the pilot assembly may be replaced under health and safety repair.

The goal of all testing shall be to make sure heating systems are present, operable, and performing safely.

## 6.2 – Asbestos (Confirmed and/or Presumed Asbestos Containing Material)

### Concurrence, Alternative or Deferral

Concurrence with DOE Guidance ☒

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

### **Asbestos on Heating, Ventilation and Air Conditioning (HVAC) systems, distribution, venting and other small surfaces that will be disturbed through the course of weatherization work policy**

Testing must include a point count analysis and if less than 1% is considered as non-asbestos containing. If test results are less than 1%, weatherization services/measures are to be installed per Recommended Measures Report.

Prior to taking samples and testing, the homeowner must be presented with the CDPHE client education pamphlet on Asbestos (appendix 01- A2), testing procedure, potential outcomes, and disclosure requirements.

If testing is done, the homeowner and client must be notified of the results in writing. If the client and or the homeowner does not allow for testing, the unit may be deferred.

Surfacing Material that has been sampled, tested, and contains greater than 1% asbestos, must follow Class I – IV requirements per OSHA, and is considered beyond the scope of weatherization. If the test results are positive for asbestos, the areas where asbestos is located must be deferred for this measure or the entire unit may be deferred.

Assume asbestos is present in suspected asbestos-containing covering materials. Encapsulation is allowed by an Asbestos Hazard Emergency Response Act (AHERA) asbestos control professional. Removal is allowed by an AHERA asbestos control professional if less than 25 linear of thermal system insulation (TSI) or 10 square feet of or surfacing material for known or suspected ACM/ACBM. Debris must be disposed of properly; any removal exceeding these amounts is considered abatement and is not allowed with program funds.

### **Asbestos in attics, walls, floors roofs and foundations that will be disturbed through the course of weatherization work policy**

Trigger Levels & Allowable Work: Work for sidewall insulation should be done from the exterior whenever feasible. Sidewall Surfacing Material that has been sampled, tested, and contains greater than 1% asbestos, must follow Class I – IV requirements per OSHA, and is considered beyond the scope of weatherization. If the test results are positive for asbestos, the areas where asbestos is located must be deferred for this measure or the entire unit may be deferred. Prior to taking samples and testing, the homeowner must be presented with the CDPHE client education pamphlet on Asbestos (appendix 01- A2), testing procedure,



potential outcomes, and disclosure requirements. If testing is done, the homeowner and client must be notified of the results in writing. If the homeowner does not allow for testing, the individual measure may be deferred or the entire unit may be deferred.

If the material to be disturbed is 1% or less containing asbestos material, work may proceed where the Thermal System Insulation (TSI) to be disturbed is 25 linear or less or the Surfacing Material to be disturbed is 10 square feet or less. The disturbance amount for holes drilled is for the circumference and kerf of the hole saw or the entire hole size if using other than a hole saw. The debris associated with the work is considered household waste and must be disposed of properly. Areas where drilling will occur should be spritzed with water prior to drilling. If the structures/components to be disturbed exceed the trigger levels, it is considered abatement and is not allowed with program funds.

**Drill and Blow:** All safety protocols as required for the Renovation, Repair, and Painting Rule (RRP Rule) including client education, signage, PPE, isolation of work areas - tenting, HEPA Vacuums, Drill Shrouds, Bit Buddies, etc., wet clean up, and clean up verification must be completed.

**Encapsulation:** Encapsulation is allowed by an Asbestos Hazard Emergency Response Act (AHERA) asbestos control professional. Removal is allowed by an AHERA asbestos control professional if less than 25 linear of thermal system insulation (TSI) or 10 square feet of or surfacing material for known or suspected ACM/ACBM.

**Transite Siding:** Removal of transite siding is allowed to perform conservation measures. All precautions must be taken not to damage siding. Asbestos siding (transite siding) should never be cut or drilled. It is recommended, where possible, to insulate through the home interior. The client must be informed of the suspected ACM/ACBM and that precautions will be taken.

#### **Vermiculite that will be disturbed through the course of weatherization work policy**

If the test results are positive for asbestos (greater than 1%), the areas where the vermiculite is located must be deferred or the entire unit may be deferred. The unit should be deferred if ASHRAE 62.2 or other health and safety measures cannot be installed completely or properly due to the presence of vermiculite insulation containing asbestos (positive results). Removal of vermiculite is not allowed with program funds.

If the vermiculite is tested and is positive for ACM, the vermiculite may be removed by a certified asbestos abatement contractor without program funds, and prior to any weatherization work being performed within the contaminated area. Written documentation (proof) that the vermiculite insulation was removed by a certified asbestos abatement contractor, and any air monitoring, and/or clearance testing as required by the Colorado Department of Public Health and Environment must be included in the client file.

Samples must be taken as required (e.g. 3 samples per 1000 square feet), and must include top, middle and bottom of the vermiculite material as asbestos tends to settle to the bottom. Samples taken are to be combined into one sample for testing. Testing must include a point count analysis and if 1% or less is considered as non-asbestos containing. If test results are 1% or less, weatherization services/measures are to be installed per Recommended Measures Report where vermiculite is present.

#### **Blower door testing policy when asbestos/vermiculite is present**

Blower door testing is not allowed (pressurization nor depressurization), unless testing results prove negative for asbestos containing materials in the vermiculite or friable asbestos.

#### **Testing protocols**

**Sampling & Testing:** Sampling of suspected asbestos containing material is allowed by a certified Colorado Department of Public Health and Environment (CDPHE), Asbestos Building Inspector for suspected asbestos containing materials (SACM) and testing of sample(s) is allowed by a certified testing laboratory. Samples for interior and exterior wall finishes where drill and blow work might be completed should be taken where the holes will be drilled or siding removed for insulation installation.

The subgrantee Asbestos Building Inspector or the subgrantee may hire a certified Asbestos Building Inspector to take samples for testing. Samples must be taken as required (e.g. 3 samples per 1000 square feet), and must include top, middle and bottom of the vermiculite material as asbestos tends to settle to the bottom. Samples taken are to be combined into one sample for testing.

#### Documentation requirements

Prior to taking samples and testing, the homeowner must be presented with the CDPHE client education pamphlet on Asbestos , testing procedure, potential outcomes, and disclosure requirements. If testing is done, the homeowner and client must be notified of the results in writing. If the homeowner does not allow for testing, the individual measure may be deferred or the entire unit may be deferred.

### 6.3 – Biologicals and Unsanitary Conditions (e.g., odors, mustiness, bacteria, viruses, raw sewage, rotting wood)

#### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance ☒ Alternative Guidance ☐ Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

#### Biological and unsanitary conditions in dwellings policy

Remediation of conditions that may lead to or promote biological concerns and unsanitary conditions is allowed. However, addressing bacteria and viruses is not an allowable cost. Deferral may be necessary in cases where a known agent is present in the home that may create a serious risk to occupants or weatherization crews.

The subgrantee may spend up to \$500 for the mitigation of Unsanitary Conditions. Any amount over that must be sent to the CEO for approval in the form of a Waiver Request.

#### Testing protocols

This health and safety category shall require sensory inspection for the purpose of detection. Types of health and safety hazards that may be included under this category include, but are not limited to: Odors, mustiness, bacteria, viruses, raw sewage, rotting wood, garbage, etc.

### 6.4 – Building Structure and Roofing (e.g., roofing, wall, foundation)

#### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance ☒ Alternative Guidance ☐ Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

#### Structural issues in dwellings policy

Weatherization workers are to perform a visual inspection to ensure that access to areas necessary for weatherization is safe for entry and performance of assessment, work, and inspection

Notify clients of structurally compromised areas; defer weatherization work to those areas.

#### Define and quantify minor or allowable structure and roofing issues. At what point are these considered beyond the scope of weatherization?

While conducting the initial audit, the building structure shall be inspected for structural integrity. Minor repairs to protect the DOE materials installed may be performed to protect the energy saving investment. However, building rehabilitation is beyond the scope of the WAP. Dwellings whose structural integrity is in question should be referred to HUD or other appropriate local and state agencies. Weatherization services may need to be delayed or deferred until the dwelling can be made safe for crews and occupants.

Incidental (minor) repairs necessary to effectively perform or preserve weatherization materials/measures are allowed. Examples of these include sealing minor roof leaks to preserve new attic insulation and repairing water damaged flooring as part of replacing a water heater. Incidental structural repairs shall not include cosmetic applications, such as replacing a floor covering such as a carpet or linoleum. Only the structural part shall be replaced/repared.



**If priority lists are used and these repairs are designated as IRMs, at what point is a site-specific electronic energy audit required?**

N/A

## 6.5 – Code Compliance

### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance ☒

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

### Code compliance issues in dwellings policy

Code compliance issued may be performed when associated with weatherization measures are being Installed. Code issues may be used to correct non weatherization related code compliance issues.

Visual inspection as well as local code enforcement inspections shall be necessary to comply with WPN 17-7 guidance. Subgrantees are to follow all State and Local codes when installing weatherization measures. Subgrantees are to acquire all required permits and licenses pertinent to installing weatherization measures. These vary by jurisdiction and it is the responsibility of each subgrantee agency to know what the codes are in each of the areas they work in, as well as what permits and licenses are required in each of the areas they work in.

Inform client of observed code compliance issues. Make appropriate referrals as necessary. Auditor must have a Health and Safety inspection form filled out and signed by the client. Agency must leave a signed copy of the form with the client and a copy kept in the client file.

## 6.6 – Combustion Gases

### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance ☒

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

### Combustion gas issues discovered during testing, including those that require an immediate response policy

All hazardous situations, including gas leaks, fire hazards, CO, etc that present an immediate threat, require immediate action. At a minimum, this includes notifying the client and contacting a supervisor.

Emergency Procedures:

- Clients may not be left without space heating during the heating season.
- Sub-grantees may loan only closed coil electric space heaters to clients without space heat.
- If there is a strong smell of leaking gas, workers must tell the client and ask them to leave the home. The auditor should leave the home and call either their supervisor, the utility company, or 911 depending on the seriousness of the matter.
- Sub-grantees must have an emergency medical procedure in place, and workers must be trained on subgrantee emergency medical procedures.

### Testing protocols

Combustion safety testing includes the following:

- Combustion safety testing is required when combustion appliances are present. Combustion appliances include any appliance using combustible fuels, including gas water heaters, wood stoves, gas or oil fueled furnace/heat system (including free standing kerosene, natural gas, or propane space heaters), ovens, and gas clothes dryers. These requirements apply to all active combustion heating systems and appliances, whether they are primary or secondary systems. Combustion appliances must also be properly vented to the outside of the home. Diagnostic equipment should be calibrated per manufacturer's instructions.
- The combustion appliance safety inspection includes all of the following: carbon monoxide testing, Ambient CO, spillage evaluation, and worst case depressurization of the combustion appliance zone (CAZ). Combustion safety test results must be acted upon appropriately according to the combustion safety tables. As applicable, every combustion appliance will be checked for a safe flue pipe, chimney or vent, adequate combustion air, and gas leakage.

- A complete mechanical systems audit is required to be completed on every home. All relevant information must be recorded on the Heating System Worksheet. The procedure includes collecting general information; collecting and recording mechanical systems information; visual and diagnostic inspection of the venting and distribution system; and, combustion analysis and diagnostic testing of gas/propane fired equipment. A post-installation safety inspection is also required.
- Inspect venting of combustion appliances and confirm adequate clearances.
- Test naturally drafting appliances for spillage under worst case conditions before and after air sealing.
- Detect gas leaks with a combustible gas detector and/or soap. Repair leaks.
- Undiluted CO will be measured. Clean and tune is an allowable Health and Safety repair.
- Solid fuel burning appliances that are the primary heat source and have signs of structural failure may be replaced.

## 6.7 – Electrical

### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance x ☐

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

### Electrical hazards, including knob & tube wiring, in dwellings policy

Wiring splices must be enclosed in metal or plastic electrical boxes, fitted with cover plates before being covered with insulation. In most instances, Colorado codes require licensed electricians to perform most electrical repairs. When electrical repairs within the scope of the DOE WAP are required, the typical standard of remedy shall be to subcontract the repair work to a licensed electrician. All appropriate procurement procedures shall be followed when subcontracting.

Testing shall include visual inspection and voltage detection testing.

- Inspect and assess the house to identify knob and tube wiring. Non-contact testing methods will be used to determine if wiring is live.
- Live knob and tube will not be covered or surrounded. A qualified auditor will verify wiring to be safe.
- Live knob and tube may be isolated to insulate around wiring. The dam will not cover the top of the knob and tube will be created to separate insulation from the wiring. When isolation is performed a warning sign must be installed at all entries to the attic about the presence of knob and tube wiring.
- Knob and tube wiring may be replaced as an Incidental Repair Measure (IRM). IRM must be associated with an Energy Conservation Measure (ECM), provided the ECM SIR is 1.0 or greater and cumulative SIR is 1.0 or greater.
- Home electrical circuits must be grounded where a new refrigerator will be installed. Repairs to ground the outlet and/or circuit must be charged as an Incidental Repair Measure associated with the refrigerator.

CEO WAP has the following language in its Field Guide, "Proper clearance will be maintained around live knob and tube as required by the National Electrical Code (NEC) or authority having jurisdiction. When required, a dam that does not cover the top will be created to separate insulation from the wire path." However, subgrantees are primarily using electricians to replace knob and tube wiring, but when they utilize feasible and cost-effective shielding, a 6" air gap is created prior to installing fiberglass batt insulation.

### Define and quantify minor electrical issues. At what point are these considered beyond the scope of weatherization?

Allowable electrical repairs are those that are associated with an energy conservation measure, provided the ECM SIR is 1.0 or greater and the cumulative SIR is 1.0 or greater. If electrical wiring and circuitry is found to be in such a condition as to be a serious safety risk, work should be deferred until the electrical safety issue has been satisfactorily corrected.

### If priority lists are used and these repairs are designated as IRMs, at what point is a site-specific electronic energy audit required?

N/A

## 6.8 – Formaldehyde, Volatile Organic Compounds (VOCs), Flammable Liquids, and other Air Pollutants

### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance x ☐Alternative Guidance ☐Results in Deferral/Referral ☐Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source**Formaldehyde, VOCs, flammable liquids and other air pollutants in dwellings policy**

Sensory inspection shall be the primary detection method.

All reasonable steps shall be taken to limit worker exposure to VOCs. When using products known to emit VOCs, increase ventilation. Meet or exceed any label precautions. Identify, and if possible, remove the source. If not possible to remove, reduce exposure by using a sealant on all exposed surfaces of paneling and other furnishings.

Educate clients regarding the use of integrated pest management techniques to reduce the need for continued use of pesticides. Properly dispose of partially full containers of old or unneeded chemicals. Because gases can leak even from closed containers, this single step could help lower concentrations of organic chemicals in the home and/or workplace. Do not simply toss these unwanted products in the garbage can. State and local codes and regulations regarding disposal of toxic household wastes must be followed.

At all times, crews are to look for potential fire hazards. Crews and auditors shall check for potential fire hazards in the home during the audit and while performing the weatherization work. Fire hazards must be remedied provided that they fall within the scope of the program and do not exceed the DOE health and safety dollar threshold.

If the remedy required to remove the fire hazard goes beyond the scope of the DOE WAP, weatherization work may have to be deferred until the fire hazard has been eliminated. Proper referral and deferral protocols shall be followed.

**Testing protocols**

Sensory inspection shall be the primary detection method.

**6.9 – Fuel Leaks (please indicate specific fuel type if policy differs by type)****Concurrence, Alternative or Deferral/Referral**Concurrence with DOE Guidance x ☐Alternative Guidance ☐Results in Deferral/Referral ☐Unallowable Measure ☐**Fuel leak remediation protocols**

Raw fuel leaks will be monitored for before entering building spaces. If leaks are found, testing will be discontinued and condition reported to the occupant immediately. Testing for gas leakage at connections of natural gas and propane piping systems. Leakage will be located using an approved combustible gas detector, a non-corrosive leak detection fluid or an equivalent non-flammable solution. Matches, candles, open flames or other methods that could provide a source of ignition cannot be used. For the low-pressure, client-side of the meter, at the first joint past the meter, where leakage or other defects are located, the affected portion of the piping system will be repaired or replaced and retested.

**At what point are fuel leaks considered beyond the scope of weatherization?**

Fuel leaks at utility meters are outside the scope of weatherization.

**Testing protocols**

Raw fuel leaks will be monitored for before entering building spaces. If leaks are found, testing will be discontinued and condition reported to the occupant immediately. Testing for gas leakage at connections of natural gas and propane piping systems. Leakage will be located using an approved combustible gas detector, a non-corrosive leak detection fluid or an equivalent non-flammable solution. Matches, candles, open flames or other methods that could provide a source of ignition cannot be used. For the low-pressure, client-side of the meter, at the first joint past the meter, where leakage or other defects are located, the affected portion of the piping system will be repaired or replaced and retested.

**6.10 – Gas Range/Ovens****Concurrence, Alternative or Deferral/Referral**Concurrence with DOE Guidance x ☐Alternative Guidance ☐Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

#### Unsafe gas range/ovens policy

Ambient CO will be monitored during combustion testing and testing will be discontinued if ambient CO level inside the home or work space exceeds 35 parts per million (ppm). If over 35 ppm turn off appliance, vent area and investigate source. Per WPN 17-7, replacement is not allowed.

#### Testing protocols

Gas ovens will be tested for CO. A clean and tune may be conducted if measured CO in the undiluted flue gases of the oven vent at a steady state exceeds 225 ppm as measured. Gas range burners testing. Specify clean and tune if the flame has any discoloration, flame impingement, or an irregular pattern or if burners are visibly dirty, corroded, or bent.

### 6.11 – Hazardous Materials Disposal [e.g., Lead, Refrigerant, Asbestos, Mercury (including CFLs/fluorescents), etc.] *(please indicate where policy differs by material)*

#### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance ☒

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

#### Hazardous materials disposal policy (existing material/appliance and hazardous material)

Follow all EPA testing protocols.

Colorado WAP subgrantees shall ensure that subcontractors who would be charged with refrigerant reclamation (e.g. removal of old refrigerators or air conditioning units) follow all EPA testing protocols and are EPA-approved section 608 type I certified or universal certified. Colorado is mostly a cold weather state and in most cases, does not replace air conditioning systems, so subgrantees do not typically have to deal with refrigerants except in refrigerator replacement. In cases where furnace replacements require handling, repairs, or removal of existing refrigerants, subgrantees and/or contractors will follow all EPA testing protocols and are EPA-approved section 608 type I certified or universal certified.

Hazardous Waste Materials generated in the course of weatherization work shall be disposed of according to all local laws, regulations and/or Federal guidelines, as applicable. Document proper disposal requirements in contract language with the responsible party. When hazardous materials (refrigerant, mercury thermostats, lead paint dust/chips, etc.) are generated in the course of weatherization work, proper disposal is required, and removal/disposal costs must be included. When replacing existing thermostats, identify and dispose of any mercury-containing thermostats in accordance with Environmental Protection Agency (EPA) guidance.

#### Documentation requirements

Inform the client in writing of hazards associated with hazardous waste materials being generated and or handled in the home. Auditor must have a Health and Safety inspection form filled out and signed by the client. Agency must leave a signed copy of the form with the client and a copy kept in the client file.

### 6.12 – Injury Prevention of Occupants and Weatherization Workers (e.g., repairing stairs and replacing handrails)

#### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance ☒

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

#### Injury prevention measure(s) policy

If crews encounter a situation where a staircase is deemed unsafe, for example, and the staircase is necessary to reach the area where the crews need to perform the weatherization work, and repairing the staircase requires only minor repair work and installation measures, crews shall perform the minor repair work so that they may safely perform the weatherization work to the home. The repair work must be associated with one energy conservation measure that has an SIR of 1.0 or greater and the cumulative SIR must remain greater than 1.0 for repair to be performed.

**Define and quantify minor or allowable injury prevention measures. At what point are these considered beyond the scope of weatherization?**

If the repair work required is deemed to be beyond the scope of the DOE WAP (major repair is required such as rebuilding an entire staircase), the weatherization work to that area of the home shall be deferred or the unit shall be deferred until the homeowner has satisfactorily installed the required repair(s).

### 6.13 – Lead Based Paint

#### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance ☐

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

#### Lead safe work protocols

Colorado is currently in compliance with the DOE RRP rule with crew members having achieved Certified Renovator status. Certifications under this rule shall be kept current.

Colorado recommends assuming that lead paint and varnished surfaces may be present in any house built prior to 1978 and to follow the proper DOE LSW protocols, OSHA regulations and EPA regulations in all pre-1978 homes.

Testing is allowed per RRP requirements. Job site set up and cleaning verification is required by a Certified Renovator.

As a minimum guideline, the following weatherization activities require lead-safe practices. (Note that this is not a complete list of weatherization activities that may create lead hazards, so it is important to train all workers to follow LSW measures whenever they disturb or could potentially disturb painted surfaces on buildings built prior to 1978.)

- Drilling holes in interior walls
- Drilling holes in and removing siding from exterior walls
- Cutting attic access into ceilings
- Removing caulk or window putty (interior)
- Removing caulk or window putty (exterior)
- Removing weatherstripping
- Modifying doors
- Planing doors in place
- Installing door shoes
- Replacing door jambs and thresholds
- Replacing windows
- Replacing thermostats
- Replacing furnace filters
- Replacing furnaces
- Replacing HEPA filters and cleaning HEPA vacuums at a weatherization facility
- Replacing HEPA filters and cleaning HEPA vacuums at the work site

#### Testing protocols

Testing is allowed per RRP requirements. Job site set up and cleaning verification is required by a Certified Renovator. Colorado recommends assuming that lead paint and varnished surfaces may be present in any house built prior to 1978 and to follow the proper DOE LSW protocols, OSHA regulations and EPA regulations in all pre-1978 homes.

#### Documentation requirements

Crews must follow all client notification requirements:

- Distribution of the EPA pamphlet, revised in September 2011, titled “Lead-Safe Certified Guide to Renovate Right”.
- The client file must include signed documentation that the client received the Renovate Right pamphlet.

Subgrantees must assign a Certified Renovator to each job requiring Lead Safe Work, and a copy of his/her current certification certificate must be left onsite until completion of the work. Any training that was performed, lead testing and assessment documents, and photos of containment.

Firms must retain all records necessary to demonstrate compliance for a period of six (6) years following completion of the weatherization, renovation. Records that must be retained include (where applicable):

- Reports certifying that a determination had been made by an inspector that lead-based paint and varnished surfaces is not present on the components.
- Signed and dated acknowledgments of receipt.
- Certifications of attempted delivery.
- Certificates of mailing.
- Notification activities performed regarding common areas.

### 6.14 – Mold and Moisture

(e.g., drainage, gutters, down spouts, extensions, flashing, sump pumps, dehumidifiers, landscape, vapor retarders, moisture barriers)

#### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance ☒

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

#### Moisture related issues in dwellings policy

Limited water damage repairs can be addressed by weatherization workers and correction of moisture and mold creating conditions are allowed when necessary in order to weatherize the home and to ensure the long term stability and durability of the measures.

Where severe mold and moisture issues cannot be addressed, deferral is required.

Visual assessment is required and diagnostics such as moisture meters are recommended pre and prior to final inspection. However, mold testing is not an allowable cost. Per Colorado Technical Standards, all units must be inspected for problems associated with excess moisture. Identification of potential moisture problems shall be documented in the client file. If possible, and within the scope of the DOE WAP, repair minor moisture problems that will diminish the effectiveness of weatherization measures.

#### Define and quantify minor or allowable moisture-related measures. At what point are these considered beyond the scope of weatherization?

Moisture sources in the house that can generate moisture into the attic will be identified and removed or reduced.

Gutters and downspouts may be installed to correct moisture related issues that would prevent effective installation of weatherization measures. If downspouts are installed they must drain a minimum of 6' away from the house.

Sump pumps may be installed on a case by case basis with approval by the CEO via a waiver request that outlines the need and cost estimate for pump install or repair.

Where severe mold and moisture issues cannot be addressed, deferral is required.

Mold testing, abatement, remediation, or the removal of mold may not be done with CEO WAP funds. Only limited water damage repairs that can be addressed by weatherization workers and correction of moisture and mold creating conditions are allowed when necessary in order to weatherize the home and to ensure the long term stability and durability of the measures.

Agencies must visually inspect for mold during the initial energy audit. The use of moisture meters as a diagnostic tool is recommended pre and prior to final inspection. The results must be documented in the client file by completing the CEO WAP



Mold Inspection and Release Form. Clients and landlords must be notified, in writing, when a mold problem is found. If there is suspected mold growth in the HVAC system, do not operate the system. Limit HVAC work to checking for visual indicators of carbon monoxide (carbon) and spillage.

Exposed earth in crawl spaces will be covered with a continuous, durable, sealed Class 1 vapor retarder a minimum of 6 mils in thickness. All Field Guide installation requirements for crawl space type must be followed, e.g. material selection, attachment, sealing.

Homes with moisture sources in the home will be identified and removed or reduced. Local ventilation may be installed where appropriate (e.g., baths, kitchens) and vented to outside. Existing mechanical ventilation must be vented outside the building if there are any signs of moisture problems associated with the ventilation. CEO WAP utilizes the language from DOE WPN 17-7. Since the DOE allows for grantee discretion here, CEO WAP has chosen to allow its subgrantees discretion within the actual definitions of the words themselves. However, limited, minor, and problem mean within a WAP worker's standard skillset and within the scope of WAP, while severe means outside of a WAP worker's standard skillset and outside the scope of WAP, which leads to unit deferral. Also, CEO WAP ensures any IRMs are treated as such to limit H&S expenditures (i.e. total expenditures for units closed in that month) which are tracked and reviewed against the cap on a monthly basis. If an individual subgrantee goes above its own 15% cap, there is a discussion as to why and to determine if additional justification or documentation is necessary for approval.

## 6.15 – Pests

### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance x ☐

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

### Pests and pest intrusion prevention policy

Pest removal is allowed only where infestation would prevent weatherization. Infestation of pests may be cause for deferral where it cannot be reasonably removed or poses health and safety concern for workers.

Initial assessment of presence and degree of infestation and risk to workers. Determine whether the pest infestation would prevent or hamper the weatherization work. If yes, and removal is a viable and cost-effective option, take the necessary steps to remove the pest infestation problem so that the weatherization work can proceed. If yes, and removal is not a viable and cost-effective option or significant health and safety risks exist, defer the weatherization work and provide clients with appropriate referral information. If no, proceed as usual.

Screening of windows and points of access is allowable to prevent intrusion and must be assessed on a case-by case basis.

The Agency may spend up to \$500 for Pest mitigation. Any amount over that must be sent to the CEO for approval in the form of a Waiver Request.

•Inform the client of observed pest condition and associated risks. Document in client file.

### Define and quantify pest infestation thresholds. At what point are these considered Beyond the scope of weatherization

The Agency may spend up to \$500 for Pest mitigation. Any amount over that must be sent to the CEO for approval in the form of a Waiver Request.

## 6.16 – Radon

### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance x ☐

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

### Procedure for radon in dwellings

Whenever site conditions permit, exposed dirt must be covered with a vapor retarder except for manufactured homes. In homes where radon may be present, precautions should be taken to reduce the likeliness of making radon issues worse. Agencies are required to cover all exposed dirt in subspace areas with 6 mil plastic, whenever feasible. Agencies are required to air seal where possible and as much as feasible to prevent the infiltration of possible Radon into the living space from the subspace.

#### Testing protocols

Testing for Radon is not allowed by Colorado weatherization.

#### Documentation requirements

Agencies are required to provide client education on Radon and supply the EPA Citizen's Guide To Radon pamphlet to the client. In addition, agencies are required to have clients sign a "Radon Informed Consent Form".

### 6.17 – Safety Devices: Smoke and Carbon Monoxide Alarms, Fire Extinguishers

#### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance ☒

Alternative Guidance ☐

Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

#### Installation or replacement policy for the following safety devices:

**Smoke Alarms:** Smoke alarms should be considered and added whenever possible. There should be at least one operational smoke alarm per floor. There will be no replacements of existing, operable smoke alarms based simply upon the age of the alarms. The crew must educate the client about the operation and safety purpose of the smoke alarm. Smoke alarms may be installed as a Health and Safety measure. Smoke alarms must be installed within 12" of the ceiling.

CEO WAP also provides subgrantees with the following details per NFPA 72, "Install smoke alarms inside each bedroom, outside each sleeping area and on every level of the home, including the basement. On levels without bedrooms, install alarms in the living room (or den of the family room) or near the stairway to the upper level, or in both locations. Smoke alarms installed in the basement should be installed on the ceiling at the bottom of the stairs leading to the next level. Smoke alarms should be installed at least 10 feet (3 meters) from a cooking appliance to minimize false alarms when cooking. Mount smoke alarms high on walls or ceilings (remember, smoke rises). Wall-mounted alarms should be installed not more than 12 inches away from the ceiling (to the top of the alarm). If you have ceilings that are pitched, install the alarm within 3 feet of the peak but not within the apex of the peak (four inches down from the peak). Don't install smoke alarms near windows, doors, or ducts where drafts might interfere with their operation."

**Carbon Monoxide Alarms:** Pursuant to ASHRAE 62.2-2016, the installation of at least one CO alarm in every home is required independent upon the existence of any combustion appliances. Even all-electric homes get at least one CO alarm. CO alarms will be assessed and installed if none exist. CO alarm or warning equipment will be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in accordance with ASHRAE 62.2 and authority having local jurisdiction.

**Fire Extinguishers:** Where solid fuel burning equipment is present, fire extinguishers may be provided as an allowable H&S measure.

#### Testing protocols

The Energy Auditor will perform a visual assessment of CO and smoke alarms and make appropriate recommendations based on assessment and policy requirements.

Crew members must demonstrate to the client how the CO alarms work and what actions to take if the CO alarm sounds. The CO alarm must be installed per manufacturers recommendation and be compliant with local codes.

### 6.18 – Ventilation and Indoor Air Quality

#### Concurrence, Alternative or Deferral/Referral

Concurrence with DOE Guidance ☒

Alternative Guidance ☐

Results in Deferral/Referral ☐

**Version of American Society of Heating Refrigeration and Air-conditioning Engineers (ASHRAE) 62.2 Implemented (optional: identify Addenda used)**

All DOE units must have an ASHRAE 62.2.2016 assessment performed and the proof of assessment must be included in the client file. If assessment requires additional ventilation, ASHRAE requirements must be met.

Client refusal of mechanical ventilation, when evaluated and called for pursuant to the ASHRAE Standard 62.2.2016, MUST result in deferral of the unit.

The RED Calculator must be included in the client file when ASHRAE is evaluated. Fan flow rates must be tested post-weatherization to determine if the required ventilation is achieved.

#### **Procedures for complying with implemented ASHRAE standard**

All units funded with DOE monies must have an ASHRAE 62.2.2016 assessment performed and the proof of assessment must be included in the client file. If assessment requires additional ventilation, all applicable ASHRAE requirements must be met.

The RED Calculator must be included in the client file when ASHRAE is evaluated. Fan flow rates must be tested post-weatherization to determine if the required ventilation is achieved.

#### **Testing protocols**

Fan flow rates must be tested post weatherization to determine if the required ventilation is achieved. When ASHRAE 62.2.2016 is implemented a client education form must be completed.

### **6.19 – Window Repair, Door Repair**

#### **Concurrence, Alternative or Deferral/Referral**

Concurrence with DOE Guidance ☐ Alternative Guidance ☐ Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

#### **Window repair and door repair H&S policy**

Door and window replacement, repair, and/or installation are not eligible WAP health and safety expenses. They must be qualified as energy efficiency measures for replacement or meet the definition for incidental repair when repaired.

Broken or missing windows may be replaced if cost effective or repaired if IRM guidelines are met.

Seals around entry doors may be improved, using lock sets, hinges, sweeps, thresholds, etc.

Must follow LSW requirements for pre-1978 homes.

### **6.20 – Worker Safety (e.g., OSHA)**

#### **Concurrence, Alternative or Deferral/Referral**

Concurrence with DOE Guidance ☐ Alternative Guidance ☐ Results in Deferral/Referral ☐

Unallowable Measure with DOE Funding ☐ Other Funding Source Addresses H&S Issue ☐ Enter Funding Source

#### **Federal, state and local worker safety requirements policy**

Currently, local WAP agencies conduct crew level monthly health and safety training. This practice will continue as a best practice. The process for determining whether crews are utilizing good safe work practices relies on visual assessment when monitoring crews on the job site. Lack of injury and incident reports is also a valuable indicator that crews are following safe work practices. Ask to see SDS when monitoring at the job site if hazardous materials are being used. Check for posting/accessibility of SDS in WAP facilities when monitoring.